

Flipcharts from RTP Workshop on Successful Design, Development, and Deployment of ORD Products to the EPA Regions

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Participants' Desired Outcomes (number of participants sharing that outcome denoted in parentheses)

- Learn about Regions (5)
- Learn how to get info out to Regions and States (3)
- Learn how to get grant info to Regions and States (2)
- Make sure our end-product is useful (1)
- To work with ORD to transfer science (RSL) (1)
- Networking/make some contacts (5)
- How to make sure our tools are continually useful (5)
- Talk about successful transfer (1)
- Learn more about what's happening in Regions in air (2)
- Learn about Regional needs and what they do (2)
- Understand how ORD interacts with Regions (1)
- Evolve culture of communication – how do we deal together with complex problems (1)
- To learn how to “finish” my product (2)
- Improve relations with Regions in ETV (1)
- To hear how ORD scientists are communicating with Regions (2)
- Maintain existing contacts and improve them (2)
- Help “you” get the word out (1)
- How to use RSLs to get the word out (1)
- Make research more relevant (1)
- How to make linkages in my model (1)
- What works well – more efficient to get common needs addressed (1)
- Get Regional support and understanding of what we do (1)
- See Region's view of world – where are the hotspots? (1)
- How to work with Regions on asthma (1)

Lessons from Success Stories by Topic

Design and Development

From Rebecca's Story

- Accountability needed to measure outcomes – used regions to identify potential proposals
- Made Regions participate in project design
- Dialog to expand to Regions beyond original
- Prioritization? How to?

From Bob Elias

- IEUBK Model – OSWER need
 - Conceived – 1988
 - Developed – 1991
 - Released – 1994
- Data – soil lead, etc. – feed, air, home, water. Model to connect exposure to blood lead in children 0 – 6 yrs
- Target blood lead: 25 ug/dl --> 10 --> ?
- Risk assessment tool – evaluate multiple sources. Predict soil lead conc. to achieve CDC goal
- Organization for design & development
- OSWER: 5 ORD scientists – NCEA
 - 7 regional risk assist
 - 2-3 OSWER contract support (TRW)
- Key – TRW gained OSWER trust and DRD support
- OSWER commitment for long term

From Doug McKinney

- Objectives of DST: develop tool for full-cost accounting.
- Need partners/collaborators – OSW/industry/DOE/Univ./RTI/state & local/NGOs
- Background: \$40 x 10⁹/yr spent. Need credible and science-based info., state and local gov't inputs, site-specific data, infrastructure, policy costs
- Different sectors
 - Rural
 - neighborhood
 - commercial
- cradle-to-grave
- Tools
 - Databases
 - MSW data
- Champion – external peer review/continuous stakeholder involvement
- Underestimated cost

From Rochelle Araujo

- Development of a body of knowledge on mercury
 - Fish cons. adv.
 - Regional needs
 - Scientific uncertainty
- ORD/Region collaboration model
- Regional Needs
 - Sampling and analysis
 - Air and NPDES permits
 - Eco and HH risk assessment
 - Criteria – advisories
 - Fate and transport
 - Hg speciation – processes that control bio and core accumulation
 - Predictive tools
 - Transport process complex

- Coordination with EMAP/REMAP
 - Atmospheric transport
 - 3 modeling tools developed
 - R-MCM – Failure to predict leads to develop of SERAFM for Eco-risk assessment (more accurate?)
 - Watershed – WQ tech support center – Athens, GA

Deployment – Marketing

Rebecca Calderon

- PART drives “market”
- Customers – internal and external
- Program <--> Regions and Programs
- RSLs “sales staff”
- Building relationships – establish relationships-customer interface
- Different “markets” \equiv regions
- RSLs necessary to make marketing connections
- Short time \equiv “offers”
- Need to know customers better
- \$ is always a problem
- How to make more broadly useful?
- Networking
- How to make initial contact
 - RSL Program
 - RSC/SPC
 - DRAs
- Priorities? - \$

Rob Elias

- Release in 1994 – Regional Risk Assessors – Pb
- Driven by S/F risk assessment needs
- Put on web, in papers – S/F docs
- Kids are a group that everyone cares about
- RIO starts – staff/contractors <--> EIUBK – develop a team
- Outreach to towns around S/F site as part of “community involvement”
- Use internal organizations (OSWER – Technical Review Workgroup) RATS? ERAF?
- Website downloads (>1000 hits)
- Good independent review results (NRC – supports EPA science)
- Resources for outreach
- Project write-ups – case studies - available along with info. on Web
- Increased customer relations
- 1:1 basis with Regions
- Major international workshops
- Ongoing outreach as science and training changes
- Assure continuity of product life
- Identify “key” customer and who decides – “buys” product
- CDC and ATSDR? Worked with them

Doug McKinney

- Delivering tools with out market “drivers”
- Feedback messages from “satisfied customers”
- Market “research” identified niche/market/need
- Established customer relationships – understand
- Cost was “selling point”
- Markets change with time
- Timing of delivery
- Customers span fed agencies, states, stakeholders
- Clear messages about benefits/results
- *Customers become sales force!
- Feedback = ongoing marketing research
- Need a salesperson with resources (travel) - over time, get customers to pay
- Cost – can affect
- Expert – credibility
- Ongoing interactions with customers
- It costs \$ to market
- Clear long-term strategy for maintaining customer relations/communications
- Multiple media access
- Rollout – communications strategy
- What involvement prior to rollout?
 - Not regional involvement until R1, R9, R10
 - OSW guidelines --> regional implementation
 - US conference of mayors
 - OSW
 - Customers come to DRD
- Need more Regional input
- ± 10 years under development

Rochelle Araujo

- “Quiz” as communication tool
- Developing a strategy (for Hg)
- Market research to evaluate strategy/progress
- Marketing research to understand customer needs
- Limitations to existing marketing approaches (ORD knows stuff Regions don’t)
- Report to Congress --> customers --> ORD
- “Champion” – aggressive sales staff
- “Testimonials” from customers (cross agencies, states, stakeholders)
- Communication Strategies
 - Conferences, seminars (CREM, FEM)
 - Direct: inter/intra-agency workgroups
 - Website
- Using Regions to disseminate info.
- Understanding the culture of the customers to focus marketing
- Using RARE, RM, R2P2

- Broadcast and or contagion models
 - Tech Support Center
 - Customers -->? sales to other customers?
- Where 1:1 investment done, why not more ROI?
- Not necessarily “easy to use” – Capacity
- Communications issues:
 - within Regions, Prog., ORD
 - Across Regions, Prog., ORD
 - International groups
- Not just structures and channels
- What does ORD do?
 - System doesn’t work
 - How to maximize?
- Does ORD go to Regions Programs?
- Who are key groups – need additional work
- How to make Regions a “real” player - \$ vs need, “budget” vs “consumers”
- RSL’s work better than RSCs
- Regions’ influence on Program Offices
- How to engage strategically with customers?
- Networking vs mechanisms – relationships.

Deployment – Support & Maintenance

Rebecca Calderon

- Did you make a difference?
- What was the result?
- Tools, methods and evaluations to document public health benefits
- Small incremental steps to build customer interface
- Keep dialog with regions going (despite decreased funding)
- More regions
- Networking

Rob Elias

- Support to Region 10 and their contractors:
 - Met with them,
 - brought ORD products to table (CDocs, etc.),
 - helped develop clean-up level
- ORD continues to support Regions and Prog. Offices
 - helped with 100+ risk assessments
 - Post documents and answer questions on web
- NRC --> improve model and make it more widely applicable
- TRW with ORD, Regions, OSWER, etc. OSWER provides \$ for contract support
- Converted spreadsheet to model, then Windows version
- Hold workshops on state-of-science and problems in field
- Build trust
- Training program
- All-ages lead model

- Work with key people in Regions

Doug McKinney

- Don't just develop tool and send it out and be done
- Case studies as support to outside groups to get word out
- Need management support for the long haul
- Need resources – leverage
- RTI – user fee? to update data
- Early and continuous stakeholder involvement – constant communication
- Initial \$ estimates way low
- Clear maintenance plan needed at outset
- Web-accessible version
- Some support-for-pay for new case studies, etc.

Rochelle Araujo

- Champion for the project
- Modify already supported models/link to others
- Region 4 knew of tools, asked for support
- Science application continues to evolve
- Revised I/O for model
- Modeling center, conferences, seminars, training
- Hg roundtable
- Help Regions develop stronger proposals for projects (e.g., REMAP...RARE...PM, etc.)
- Build capacity in user orgs.
- Model Support Center
 - History of ORD-Res interaction available for all to learn
 - Region-to-Region contagion?
- Why does info go by broadcast model rather than contagion model?

Deployment – Feedback & Tracking Applications

Rebecca Calderon

- No info on results after 30 yrs of Agency (no feedback or tracking)
- Accountability program is expected to provide the tools/methods to document public health benefits
- Many in ORD didn't understand how regions operate
- Several lessons learned from accountability project development process (see Rebecca's slide)
- Networking is a good source of feedback

Rob Elias

- IEUBK model – regional risk assessors use this at S/F sites
- Model provides information on lead from all sources which leads to estimates of blood-lead risk
- Region 10 expressed interest in a tool to estimate blood-lead levels
- Model results determined if progress was result of reduction in blood lead levels
- Over 100 risk assessments have utilized this model
- NRC report supported EPA's model and approach

- OSWER organized a workgroup of ORD/NCEA, regional risk assessors and OSWER staff to make this tool useful
- Contractor support (Syracuse Research) was crucial to success
- 6 workshops provided feedback on state-of-the-science of Pb
- Workgroup members are trained on using model
- SAB provided feedback on new Pb, model that is applicable to all ages
- Key to success is get feedback on who in regions can make model work
- Regions provided positive feedback to OSWER, which made OSWER continue to fund this project

Doug McKinney

- The Municipal Solid Waste Decision Support Tool (MSW-DST) received feedback at beginning from potential users of tools - users were concerned about cost and flexibility of tool
- Collaborators learned with tool developers as process continued
- Collaborators included contractors, universities, state/local agencies, industry
- Customer feedback describes how the tool has been used by different users (see quotes on Doug's slides)
- Travel was necessary to hear clients
- External peer reviews provided useful feedback
- Stakeholders were involved early on and continuously
- Lessons learned provided internal feedback

Rochelle Araujo

- States (FL) and Region 4 were large champions of Everglades Hg efforts
- Peer review provided feedback and clients participated in these.
- Info. on tools was communicated through various mechanisms, including conferences, modeling center, CREM, etc. (see Rochelle's slides)
- Is there contagion of tools from Region to Region?
- Working with clients benefits all
- How do complex science issues get effective feedback?

Afternoon Session

Questions/Discussion

- How to get Regions "attuned" to hotspots?
- A place to go for Regions (National Program Offices)?
 - Strategic Plans
 - Call RSLs – a lot, not everything
 - Get on telephone
 - RCT reps – expectation of cross-communication
 - Need for multiple contacts
 - Works better if issues drive science
- How to get strategic results – many-to-many
- Communication is costly in time & resources
- Processes that work with programs don't work well with Regions
- Systematic approach

- Not “above the line” in RCTs
- Regions need advocacies at RCT
- Regions make short-term “products” – tools, models
- ORD’s collective knowledge to support – also what ORD offers
- Planning for crisis – ORD’s knowledge “planned” into crisis management
- Engaging on site-by-site basis
- How decisions get made
- How to engage? 1:1, organizational basis?
 - Integrated approach?
 - Workshops?
 - Much scientific expertise
 - ORD <--> ESD – short-term details
 - Regional Scientists invite ORD experts
 - Regions work with each other in distributed, informal ways
- Pulling interactions together
- Redesign research planning process
- High-level, more distributed
- Newsletter – share stories
- RSLs – need marketing strategy, too (≥ 3 Regions)
- Need more than 1 contact
- RSL telecon call
- Topics – round tables, telecons, discussion groups
- Regional capacity? Quarterly – 16 teams for HH MYP
- Not necessary to contact every person to all
- Market research
- Info is necessary
- Not just what’s “ready” – dialog
- Pipeline
 - Regional interest in developing the products
 - “Costs” worth it
- Many of 16 planning groups Regions plugged in – does network exist? Can ORD access? Hard to see connections?
- Is getting ORD product <--(planning)--> Regions
- Regions in “reactive” mode. ORD in “proactive” mode. Disconnect?
- ORD can help Regions now
- ORD has both products and expertise – provide “mentoring” – scientist-to-scientist
- ORD wants Region to be engaged in designing pipeline and Region wants to know what’s in there
- Accountability program --> RSL
- Regional Risk Assessors
- BEACHES Coordinators
- Inventory of Conference calls
- Web-solution – subscribers – someone managing list-serve
- Series of topics for RSLs telecons – ORD input info into RSL network
- Cultural differences
 - Capacity issues

- Build networks on short-term needs
- “NRSC Top 14” list

Marketing

- Customers become “sales force.” Someone you trust told you about product – so it works.
- There are 10 RSL’s; also, 10 Hazardous Substance Technology Liaisons – especially for RCRA and Superfund
- Target important areas – e.g., kids. People care about HH – must market.
- How to build 1:1 relationships. Tools are only good if can measure how good they are! (e.g., hits on a website)
- What can we do as individuals or as organization to increase transfer of products.
- Motivation to not “overmarket” because support is costly --> reduced research service (need more \$). No incentive
- Regions “buy” into support and structure? Coop model? Regions kick in \$ to get access to a model/product?
 - Regions get \$ from Program Office, so depends on cost.
 - Regions are poor!
 - But could they each kick in a little into a central fund?
- Coop model. Coop <--> Regional Research Partnership Program (R2P2) (reverse flow? Have ORD investigator spend 1 – 2 wks taking product to Region?)
- Need to market how to use tool now and other ways you could modify the tool for other applications.
- Need to measure outcomes
 - Recognized regional role
 - Pushed Regions to participate (Rebecca’s story) – unusual, but effective model to keep people involved. Is part of marketing
- ORD outreach works
- EPA does a bad job of outreach
- Do Regions look at Science Inventory? (some do, but content hard to understand)
- Have Regions looked at ORD pipeline?
 - Product Expo – David got 2 dozen response to request, but many products are works in progress and need to be “finished.” (e.g., is the user interface finished?)
 - Nature of ORD to want to hand unfinished products off to someone else to finish.
 - Generate a list of “final” products?

Feedback & Outcomes

- Finding Regional projects in pipeline
- No “thank yous”
- ORD/Programs/Regions involved – get buy-in
- ORD is one of the best kept secrets
- Beta-products to help?
- Other agencies have a connection to public, communications, extension–component, outreach to academic community
 - Extension and communication model works well, but we don’t do it. Getting beta products out to community
 - Need group dedicated to communicating to community
 - Also, people talking to clients, which --> RFAs

- Component geared to emerging technologies
- How to identify our beta products and how to interface in crisis mode? Regions need data fast!
- ORD reward/incentive system is not consistent with maintenance and support. Value is in papers. How to get system to support beta products? (TQB does look at products)
- Agency decision to decrease role in maintenance and support – revisit the issue?
- Need high-level conversation between ORD and Regions to impact changes
- Elements of evaluation criteria
- Do RSL's use biosketch and Science Inventory? Sometimes, but RSL's are network people more than database people
 - RSL's have partial list of ALD's, and can usually get rest readily enough
 - "Feedback" – Regional people put needed projects in ORD hopper, but don't find out about anything – no closure
 - Want to get Regions involved in making product. Hard to sell final product if not involved. Need buy-in upfront.

Round Robin

- Good ideas. Opportunity from collaboration to develop products with Regions, but also want a commitment for building expertise in Regions – Candida West
- Document outcomes of ORD outside of mission? Demand of ORD to do work of Regions
- Regions have role in moving products. ORD doesn't. What works in Regions?
- Science Communication Team can help with interface issues - Aron Furster/Melissa Anley-Mills
- RSLs are networkers – take advantage of it
- "Elevator Speeches" (1-2 min description of your work in simple terms). Power of networks. Melissa is always ready to carry messages forward. Call her.
- Winona – Region 9 – call her
- Need capability to build client-specific tools. But need a Team to market them, not a tool. Need a person-person network. Takes time to build.
- "Products" include scientists as well as tools. ORD science Regulatory coordinator (Bob Hetes and counterparts) should be interaction points to RSLs
- Need this kind of forum for new employees. Connect beta versions with culture clash. Many investigators are perfectionists – won't let product out. Need to both understand it and change it.
- Connecting faces to names. ALD's job is to market
- Topic-specific presentations are better than a science forum. Go out to Regions (is a learning experience)
- Pursuing a fractional FTE from each Region may work better than asking for \$ pay-in
- Short-term, get alligators reappearing, so good to get ORD to pursue. Brad Shultz on detail to NHEERL/HSD
- Need more extravert scientists!
- Science portal is now called the Environmental Science Connection – important distinction. Available soon. Will be a product. What's in CREM, EIMS, how to communicate
 - No silver bullet – don't have sales staff that depend on success. Need tools to help investigators get work out.
 - "Northern Light" – topic-based searches
 - Still unclear how to measure outcomes
- People receive/use information differently
- Collaborations with other fed agencies to learn how to "do" PART

- ORD visiting scientist program? An ORD Speakers Bureau (Rebecca Calderon willing to do it)
- Facilitating ways to get product out as a final product to user community
- Maintenance is key resource issue – well beyond ORD to Agency as a whole. Need to keep tools up to date (tend to languish). Can we get EPA to dialog on this?
- Able to measure outcomes is very difficult – quantify – want help. Sue Thornloe interested.
- Too many meetings in East – rotate more – more emphasis on the field
- Cost for Region-specific model high. Yet, may not apply to another Region's needs. Can't get propagated without a lot of additional \$. How to address?
- 1 year from now – too much stuff – one person will market 1 product for 5 places
- An on-Lab/Site Regional Science Program Rep? Like David Klauder, but in field rather than in DC.
- Pat Burke will send info on published products to Regions so they know what's available
- Summary – may be on web?

Volunteers for Workgroup(s)

- Candida West
- Laura Jackson
- Aron Furster (Communications – interface issues)
- Melissa Anley-Mills (Communications – interface issues)
- Rebecca Calderon (Speakers Bureau)
- Bob Hetes (interaction point with RSLs)
- Sue Thornloe (measuring outcomes on tools)